

Date: Sat, 20 Aug 94 04:30:21 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@UCSD.Edu
Reply-To: Ham-Homebrew@UCSD.Edu
Precedence: Bulk
Subject: Ham-Homebrew Digest V94 #245
To: Ham-Homebrew

Ham-Homebrew Digest Sat, 20 Aug 94 Volume 94 : Issue 245

Today's Topics:

 50 watt amp for six meter(schems).
 6m amplifier using vacuum tubes
 cell sites
 Circuit suggestions for a 6L6 metal cased valve (2 msgs)
 DSP filters
 Reed Relays for RF
 WANTED: Source for Signetics NE604 or SA604 IF/FM detector chip

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 18 Aug 1994 15:19:06 -0700
From: agate!howland.reston.ans.net!europa.eng.gtefsd.com!newsxfer.itd.umich.edu!
zip.eecs.umich.edu!yeshua.marcam.com!news.kei.com!ssd.intel.com!chnews!
ornews.intel.com!ornews.@@ihnp4.ucsd.edu
Subject: 50 watt amp for six meter(schems).
To: ham-homebrew@ucsd.edu

In article <phb.777238394@melpar> phb@syseng1.melpar.esys.com (Paul H. Bock)
writes:

>fdugas@halcyon.com (Fred Dugas) writes:

>

>>I am looking for schematics for a medium power amp for six meters...

> If you wish, I'll dig back through my old ARRL Handbooks and VHF
>Manuals and see what's there; copies are free if I find anything of
>potential interest.

Also check old copies of Ham Radio magazine. I have an old 826 tube that came out of an ultrasonic cleaner that will put out 90 watts up to 150Mhz. Specs for it are in the old Handbooks. The trick is to find a design that's close to what you want and then modify it to match what's available.

>My Dad ran a Clegg Venus which has about as clean a 40-watt signal as ever
>I've seen on 6 (I ran spectral measurements on it) and he still had
>TVI problems;...

Wow, I'll bet that's a rare radio! I have a Clegg 99'er and used to have a Clegg 66'er but they both are runts compared to 40 watts. How many different 6 meter models did Clegg make?

--

zardo@ornews.intel.com WA7LDV
I speak only for myself.

Leave it to the BEAVER state
<<< OREGON >>>

Date: 17 Aug 94 14:18:03 EDT
From: news.cerf.net!bengal.oxy.edu!acsc.com!gopher.sdsc.edu!nic-nac.CSU.net!
charnel.ecst.csuchico.edu!yeshua.marcam.com!zip.eecs.umich.edu!
newsxfer.itd.umich.edu!gatech!howland.@ihnp4.ucsd.edu
Subject: 6m amplifier using vacuum tubes
To: ham-homebrew@ucsd.edu

In article <CuK7H6.6sr@utnetw.utoledo.edu>, pouelle@uoft02.utoledo.edu writes:

> In article <5QyTM9i.mstrand@delphi.com>, mstrand@delphi.com writes:

>>Ben Slagle <aq760@yfn.ysu.edu> writes:

>>

>>>I need a schematic for a small, vacuum tube 6m amplifier... I'd

>>>like it to be in the area of 10 watts... nothing fancy, just a

>>>n amplifier I can make for cheap. Thanks.

>>

>>Hi Ben,

>>If you can find an old tube type low band (40 - 50 mHz) two way radio,

>>Motorola, GE, etc, the final amp could easily be moved to 6m. These are

>>class C amps however if that will work for your application. Ham swap meets

>>are generally a good place to find these type radios.

>>

>>Good luck!

>>Mike

>

> If you wanted a 10w solid state amp, you could base it on the 2sc3133. ICOM

> uses it in an older 6m rig (IC-505) and the transistor is not too expensive.

> The ICOM rig is an all mode and with that transistor puts out about 10w
> from a 12V supply.
>
> Patrick

I don't understand the tube requirement. At this power level a transistor amp is a natural. It would be much more expensive to build a tube amp, considering power supplies, etc... 12V supplies are cheap. How about an older solid state low band rig. Pull a class C amp off of a Mocom/Micor/MastrII - it could be easily moved to 6M. You would end up with anywhere between 5-100 watts, depending on model. Get one at a hamfest near you for \$20, maybe? Get a service manual, and have fun.

Joe - AA3GN

--

Joe Landis - System & Network Mgr. - North American Drager Co. Telford, PA
landisj@drager.com | uupsi5!main03!landisj | AA3GN@WA3TSW.#EPA.PA.USA
Opinions are mine only, and do not reflect those of my employer.
...Munging Until No Good...

Date: 13 Aug 1994 22:09:49 -0400
From: peach!atl1!w4qo@uunet.uu.net
Subject: cell sites
To: ham-homebrew@ucsd.edu

yctcsl@cerfnet.com writes:

>Does anyone have any info regarding the rate paid by PacBell (AirTouch) for
>establishing a cell site lease. The offers been made however I'd be interested to
>find out just what being paid these days.

I think a ham friend told me that his father was offered \$700 per month for a site on his property. I know it about paid the mortgage payment. Good luck.

Date: 19 Aug 94 09:07:02 GMT
From: news.delphi.com!BIX.com!jdow@uunet.uu.net
Subject: Circuit suggestions for a 6L6 metal cased valve
To: ham-homebrew@ucsd.edu

oddjob@cix.compulink.co.uk ("Stephen Walters") writes:

>Circuit suggestions for a 6L6 metal cased valve

>I have aquired an old, but working 6L6 valve and would appreciate a
>usefule circuit diagram to use it.

>I was thinking of a regenerative reciever or QRP transmitter. Any
>suggestions?

>The valve is metal cased.

>oddjob@cix.compulink.co.uk

Dig around in the back recesses of local (and not so local) libraries for
1950's to 1960's era _The Radio Amateur Handbook_ editions. Back then 6L6's,
with liberal parasitic suppression applied, was used for transmitters in the
20-50 watt range. (The memories are so dim I cannot nail it down better, alas.)
{^_^}

Date: Thu, 18 Aug 1994 23:46:32 GMT
From: (null)@oddjob.uchicago.edu@network.ucsd.edu
Subject: Circuit suggestions for a 6L6 metal cased valve
To: ham-homebrew@ucsd.edu

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oddjob@cix.compulink.co.uk

Date: 18 Aug 1994 23:44:40 GMT
From: ihnp4.ucsd.edu!agate!howland.reston.ans.net!EU.net!ub4b!
idefix.CS.kuleuven.ac.be!rc1.vub.ac.be!is1e!jpcarlie@network.ucsd.edu
Subject: DSP filters
To: ham-homebrew@ucsd.edu

Could anyone reading this recommend me a good practical (ham wise)
introduction to DSP: books, development kits,...

Of course if it was available on the net... let me know where.

Thanks

73

ONL6486

(Using someone else's account: I have no access to the news otherwise)

Marc Delince E-Mail: delinm@nsco.network.com

Date: Wed, 17 Aug 1994 17:39:17 GMT

From: ihnp4.ucsd.edu!dog.ee.lbl.gov!agate!howland.reston.ans.net!

europa.eng.gtefsd.com!darwin.sura.net!mlb.semi.harris.com!controls.ccd.harris.com!

dsnowden@network.ucsd.edu

Subject: Reed Relays for RF

To: ham-homebrew@ucsd.edu

I am (for some time now) in the process of building a 4-1000 linear amplifier. It will run a good KW (4KV plate voltage). I have a good vacuum relay for the output RF switching. I am planning on using a RF rated reed relay to switch the input RF. Does anyone out there in net land know of a good source of fairly high current reed relays. In lieu of that I could use another vacuum relay in the input if I can find one at a reasonable price. I would imagine I could get one from one of the radio manufacturers, but if that is the only source I'd just go with vacuum relays.

--

| Doug Snowden |
| N4IJ |
email: drs@ccd.harris.com

Date: Fri, 19 Aug 1994 21:25:08 +0000

From: news.cerf.net!mvb.saic.com!news.alpha.net!pacifier!rainrgnews0!psgrain!

charnel.ecst.csuchico.edu!olivea!spool.mu.edu!howland.reston.ans.net!pipex!demon!

lfheller.demon.co.uk!@ihnp4.ucsd.edu

Subject: WANTED: Source for Signetics NE604 or SA604 IF/FM detector chip

To: ham-homebrew@ucsd.edu

In article <32u8co\$ima@canopus.cc.umanitoba.ca>

rflukes@silver.cs.umanitoba.ca "Richard F. Lukes" writes:

> I am trying to find a source for the Signetics NE604 or the equivalent
> SA604 to build a project which appeared in QST about one year ago.
> I have already tried all of the parts suppliers which advertise in QST
> and have had absolutely no luck. I only need 1 or 2 of these to build

> this project. Does anyone know where I could purchase these?
>
> Any help appreciated.
>
> Thanks,
> --Rich, VE4AIV

RS Components (nothing to do with Radio Shack) here in the UK has them in their catalogue at #6.08. They have distributors in other countries. Their International Division is on (0536) 201234.

73 de Leon

--

Leon Heller, G1HSM
E-mail: leon@lfheller.demon.co.uk
Tel: +44 (0)734 266679

Date: Fri, 19 Aug 1994 13:09:08 GMT
From: newsgate.melpar.esys.com!melpar!phb@uunet.uu.net
To: ham-homebrew@ucsd.edu

References <fdugas.5.000AB1C8@halcyon.com>, <phb.777238394@melpar>,
<330mpb\$a1jj@ornews.intel.com>
Subject : Re: 50 watt amp for six meter(schems).

zardoz@ornews.intel.com (Jim Garver) writes:

>>My Dad ran a Clegg Venus which has about as clean a 40-watt signal as ever
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>>TVI problems;...

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>a Clegg 66'er but they both are runts compared to 40 watts. How many

Not sure, actually. But the Venus was a *very nice* radio and I wish I had one now. It was large, of course, by today's standards, and full of tubes on a hand-wired chassis, but it was a very nice 6-meter transceiver and with the companion Apollo 6-meter linear (500 W?) put out a VERY respectable signal. Of course, I used it barefoot for a while with a 2-element quad and had a lot of fun during Es openings. It had a *nice* Eddystone dial (but no digital readout.....darn! :-)

(|_|) Paul H. Bock, Jr. K4MSG Internet: pbock@melpar.esys.com
| |) Principal Systems Engineer Telephone: (703) 560-5000 x2062

"You can have my bug when you can pry my cold, dead fingers from around it....." - anonymous radiotelegraph operator

Date: 19 Aug 94 09:01:53 GMT
From: news.delphi.com!BIX.com!jdow@uunet.uu.net
To: ham-homebrew@ucsd.edu

References <fdugas.5.000AB1C8@halcyon.com>, <phb.777238394@melpar>, <330mpb\$aajj@ornews.intel.com>
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>--

>zardoz@ornews.intel.com WA7LDV

Leave it to the BEAVER state

>I speak only for myself.

<<< OREGON >>>

The only things I found that made high power on 6 more or less doable in a channel two area were the Drake TV-300 low pass filters. These things cut off *SHARP* at 52MHz and had sufficient attenuation at 50MHz that a KW SSB only tossed herringbones on the screen in a medium to high signal level

channel two area in Detroit. The presence or absense of the dual butterfly resonator filter I had on the PA had little or no effect on channel 2. I did figure it was a good thing for harmonic reasons, though. (That filter was so narrow I had to retune it every 100KHz for decent reception and every 25Khz to 50Khz for decent VSWR. Sadly it was one of the things that did not survive my divorce. {'_' } Whimper!)
{^_^}

Date: Wed, 17 Aug 1994 14:30:14 -0400
From: niven.ksc.nasa.gov!algot.ksc.nasa.gov!NewsWatcher!user@ames.arpa
To: ham-homebrew@ucsd.edu

References <32bk4i\$pdf@thor.cs.utexas.edu>, <32c5hi\$mtg@ohlone.kn.PacBell.COM>, <776791198snz@arkas.demon.co.uk>asa
Subject : Re: regenerative sets and selectivity

In article <776791198snz@arkas.demon.co.uk>, Michael@arkas.demon.co.uk wrote:
> In article <32c5hi\$mtg@ohlone.kn.PacBell.COM>
> jlundgre@news.kn.PacBell.COM "John Lundgren" writes:
> > Regenerative receivers never had and never will have selectivity as good
> > as the superheterodyne receivers. That's why the superhet became so
> > popular.....
>
> Actually, that's something else I've been wondering about. Just how good are
> ceramic IF filters these days....?

Michael & John-

My first Ham receiver was a Boy Scout Short Wave Set, which was a regenerative receiver using plug-in coils, battery power and one or two tubes. I made a number of contacts on 40 Meter CW using that receiver and a one-tube (6L6) transmitter. Of course you're right about the selectivity. However, what made the regenerative receiver so special, was the amount of gain available without extra stages of amplification. The trade-off was simplicity versus tuned stages.

In actuality, the term, regenerative, refers to the detector. I see no reason why a regenerative detector couldn't be used in a superheterodyne configuration, to take advantage of the selectivity. However, doing so would offer no practical advantage over use of a BFO or product detector, since other stations within the bandpass tend to "pull" the regeneration frequency.

This discussion started with "regenerative sets", which were used for CW. The "super-regenerative" receiver (detector) should also be considered in the discussion. I never understood how they worked, other than

regeneration was increased far above the amount used in ordinary regenerative receivers. I suspect they might be useable in a superheterodyne configuration.

I've seen ceramic IF filters and discriminators used in less expensive NBFM communications receivers, including much of the Two Meter Ham gear on the market. Their advantage is that they require no tuning. The only tuning problem might be incorrect impedance matching at either the input or output of the filters, which could cause "ripple" or skew the shoulders of the bandpass curve. They are usually considerably smaller than equivalent LC filters, and cheaper than crystal filters.

One drawback of ceramic IF filters, is that the ultimate out-of-band rejection may not be as good as can be achieved with other filters. It may also have more insertion loss. However, insertion loss isn't usually a problem with an FM system, where noise figure is determined in the front end, and the detector is preceded by limiter amplifiers.

73, Fred, K4DII

End of Ham-Homebrew Digest V94 #245
